REMARKS/ARGUMENTS

Favorable consideration of this application in light of the following discussion is respectfully requested.

Claims 1-12 are presently pending in this application, Claim 13 having been canceled and Claims 1, 6 and 9 having been amended by the present amendment.

In the outstanding Office Action, Claim 13 was rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not enabling to one skilled in the relevant art; Claims 6 and 9-12 were rejected under 35 U.S.C. §102(b) as being anticipated by Jullian et al. (U.S. Patent 5,863,315); and Claims 1-5, 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jullian et al. in view of Kulprathipanja (U.S. Patent 5,900,523).

Regarding the rejection of Claim 13 under 35 U.S.C. §112, first paragraph, Applicants respectfully request that Claim 13 be canceled without prejudice.

Claims 1, 6 and 9 have been amended herein. The amendments in Claims 1 and 6 are believed to be supported by the specification as originally filed, for example, Examples 1-4 on pages 6-7 (on pages 4 to 5 of the substitute specification filed November 2, 2001), and Claim 9 has been amended to be consistent with amended Claim 9. Hence, no new matter is believed to be added thereby.

Briefly, Claim 1 as currently amended is directed to a process for separating mixtures of hydrocarbon isomers in gas phase on molecular sieves, and the process includes the steps of providing a plurality of columns each including molecular sieves and configured to function alternately such that the columns are designated to function from a secondary adsorption device, to a primary adsorption device, and to a desorption device in sequence, feeding the mixtures of hydrocarbon isomers to at least one of the columns functioning as the

primary adsorption device such that isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers are adsorbed, feeding an entire effluent of the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the primary adsorption device to at least one of the columns functioning as the secondary adsorption device such that remaining of the isomers with a greater selectivity towards the molecular sieves are adsorbed, discharging isomers with a lower selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the secondary adsorption device and a desorbing agent remaining therein, feeding a desorbing agent to at least one of the columns functioning as the desorption device, discharging isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers and the desorbing agent in the at least one of the columns functioning as the desorption device, feeding the isomers with a lower selectivity towards the molecular sieves and the desorbing agent discharged from the at least one column functioning as the secondary adsorption device to a first distillation unit configured to recover the desorbing agent for recycling for the at least one column functioning as the desorption device, feeding the isomers with a greater selectivity towards the molecular sieves and the desorbing agent discharged from the at least one of the columns functioning as the desorption device to a second distillation unit configured to recover the desorbing agent for recycling for the at least one of the columns functioning as the desorption device, and rotating the columns from the secondary adsorption device, to the primary adsorption device, and to the desorption device in sequence, wherein at least the steps involving adsorption and desorption of the hydrocarbon isomers in gas phase are carried out at a pressure of about 1.1 bar. As such, a process for separating the mixtures of hydrocarbon isomers are separated in gas phase on

molecular sieves at a relatively lower pressure, *i.e.*, a pressure only slightly higher than the atmospheric pressure, without requiring pressure swings.

Jullian et al. is directed to a process for the separation of isoalkanes/n-alkanes by gas phase adsorption. Nevertheless, Jullian et al. does not teach "feeding the mixtures of hydrocarbon isomers to at least one of the columns functioning as the primary adsorption device such that isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers are adsorbed; feeding an entire effluent of the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the primary adsorption device to at least one of the columns functioning as the secondary adsorption device such that remaining of the isomers with a greater selectivity towards the molecular sieves are adsorbed; discharging isomers with a lower selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the secondary adsorption device and a desorbing agent remaining therein; feeding a desorbing agent to at least one of the columns functioning as the desorption device; discharging isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers and the desorbing agent in the at least one of the columns functioning as the desorption device; feeding the isomers with a lower selectivity towards the molecular sieves and the desorbing agent discharged from the at least one column functioning as the secondary adsorption device to a first distillation unit configured to recover the desorbing agent for recycling for the at least one column functioning as the desorption device; [and] feeding the isomers with a greater selectivity towards the molecular sieves and the desorbing agent discharged from the at least one of the columns functioning as the desorption device to a second distillation unit configured to recover the desorbing agent for recycling for the at least one of the columns functioning as the desorption device ..., wherein at least the steps

performing adsorption and desorption of the hydrocarbon isomers in gas phase are carried out at a pressure of about 1.1 bar" as recited in amended Claim 1. On the contrary, Jullian et al. discloses a process for separating hydrocarbons mixtures *using a pressure swing*, and states that "[t]he preferred operating conditions are ... an adsorption pressure of 5 to 40 bars or more, preferably 15 to 25 bars,"[1] clearly requiring a substantially higher pressure. Therefore, the subject matter recited in amended Claim 1 is believed to be patentably distinguishable from Jullian et al.

Kulprathipanja is directed to a process for adsorptive separation of metaxylene from xylene mixture, and clearly does not teach a process for separating mixtures of hydrocarbon isomers in gas phase on molecular sieves, "wherein at least the steps performing adsorption and desorption of the hydrocarbon isomers in gas phase are carried out at a pressure of about 1.1 bar" as recited in amended Claim 1. Specifically, Kulprathipanja only discloses a process for separating metaxylene from a mixture of C_8 aromatic hydrocarbons in which the mixture is sent to an adsorption zone in *liquid phase*. The subject matter recited in amended Claim 1 is therefore distinguishable from Kulprathipanja.

Because neither Jullian et al. nor Kulprathipanja discloses a process for separating mixtures of hydrocarbon isomers in gas phase on molecular sieves, "wherein at least the steps involving adsorption and desorption of the hydrocarbon isomers in gas phase are carried out at a pressure of about 1.1 bar" as recited in amended Claim 1, even the combined teachings of these cited references are not believed to render the process recited in amended Claim 1 obvious.

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[1] Jullian et al., column 5, lines 5-10.

Likewise, Claim 6 has been amended to include the subject matter substantially similar to what is recited in amended Claim 1 to the extent discussed above, amended Claim 6 is also believed to be distinguishable from both Jullian et al. and Kulprathipanja.

For the foregoing reasons, Claims 1 and 6 are believed to be allowable. Furthermore, since Claims 2-5 and 7-12 depend ultimately from either Claim 1 or 6, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 2-5 and 7-12 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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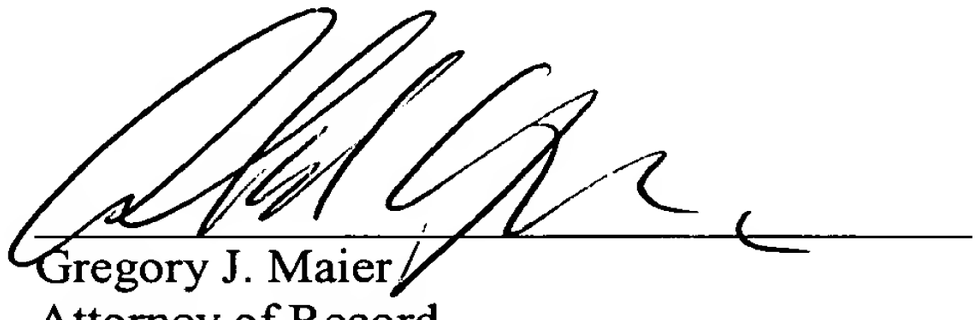

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